

Date: Tuesday, 20/01/2009 2:39:51 PM
User: Linda Lacelle

Process Sheet

~~REFERENCE ONLY~~

Custor er : CU-DAR001 Dart Helicopters Services

Job Nu mber : 44964

Estima e Number : 13734

P.O. Number :

This Is iue : 20/01/2009 S.O. No. :

Prsht l ev. : NC

First Is iue : / /

Previo is Run :

Writte By :

Check ed & Approved By :

Comm ent :

: Est Rev:A 09-01-19 as per prelim issue DD verified by:EC

Drawing Name

: FWD HARDPOINT KIT

Part Number

: D412786013

Drawing Number

: D412-786-1 PRELIM

Project Number

: N/A

Drawing Revision

: PRELIM

Material

:

Due Date

: 27/01/2009

Qty:

POSITIVE
RECALL

Um: Each

Additional Product

PRELIMINARY ISSUE

Job Number:



Seq. #:

Machine Or Operation:

Description :

1.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile & type labels per PPP D412-786-013 CHG001

N/A

2.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

3.0

D3870041

Hardpoint, Fwd LH



Comment: Qty.: 1.0000 Each(s)/Unit Total : 4.0000 Each(s)

Hardpoint, Fwd LH

batch:

B44957 x1

SS 09/01/20 (x4)

4.0

D3870042

Hardpoint, Fwd RH



Comment: Qty.: 1.0000 Each(s)/Unit Total : 4.0000 Each(s)

Hardpoint, Fwd RH

batch:

B44960 x1

SS 09/01/20 (x4)

5.0

D38705

Mount, Fwd Upper



Comment: Qty.: 1.0000 Each(s)/Unit Total : 4.0000 Each(s)

Mount, Fwd Upper

batch:

B44961

SS 09/01/20 (x4)

~~REFERENCE ONLY~~

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD HARDPOINT KIT

Job Number: 44964

Part Number: D412786013

Job Number:



Seq. #: Machine Or Operation:

Description :

6. D38711

Doubler



Comment: Qty.: 1.0000 Each(s)/Unit Total: 4.0000 Each(s)

Doubler

batch: B44963

7.0 D38712

Doubler



Comment: Qty.: 1.0000 Each(s)/Unit Total: 4.0000 Each(s)

Doubler

batch: B44963

8.0 MS21042L3

Nut



Comment: Qty.: 10.0000 Each(s)/Unit Total: 40.0000 Each(s)

Nut

batch: M109716 34x M109798 6x

9.0 MS27039111

Screw



Comment: Qty.: 8.0000 Each(s)/Unit Total: 32.0000 Each(s)

Screw

batch: 9662

10.0 MS27039112

Screw



Comment: Qty.: 1.0000 Each(s)/Unit Total: 4.0000 Each(s)

Screw

batch: M100993

11.0 MS27039114

Screw



Comment: Qty.: 1.0000 Each(s)/Unit Total: 4.0000 Each(s)

Screw

batch: M15924

12.0 NAS1149D0332J

Washer



Comment: Qty.: 10.0000 Each(s)/Unit Total: 40.0000 Each(s)

Washer

batch: M110625

PC 9/1/27 (4)

Tuesday, 20/01/2009 2:39:51 PM
Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD HARDPOINT KIT

Job Number: 44964

Part Number: D412786013

Job Number:



Seq. #: Machine Or Operation:

13.0 QC4



Description :

INSPECT 100% KITS FOR COMPLETENESS

APPROVAL



Comment: INSPECT 100% KITS FOR COMPLETENESS

14.0 PACKAGING 1



PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D412-786-013

Location: _____

PPP Rev: _____

44949

15.0 QC21



FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

09/02/17

MF 09-01-28

Jr to Completion



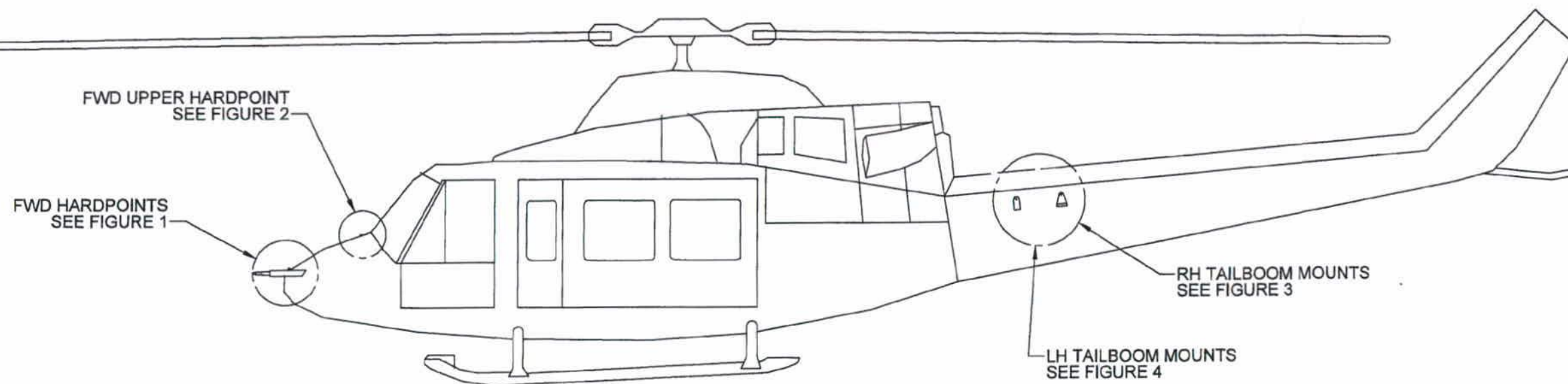
POSITIVE RECALL

EFFECTIVE 09-01-20

RELEASED

AUTH

DATE 09-02-17



D412-786-011 HARDPOINT KIT

PRELIMINARY ISSUE
WP 09/01/14

QTY -011	QTY -013	QTY -015	PART NUMBER	DESCRIPTION
X			D412-786-011	HARDPOINT KIT
1	X		D412-786-013	FWD HARDPOINT KIT
1		X	D412-786-015	TAILBOOM MOUNT KIT
		1	D3866-041	TAILBOOM MOUNT
		2	D3866-043	TAILBOOM MOUNT
	1		D3870-041	FWD LH HARDPOINT
	1		D3870-042	FWD RH HARDPOINT
	1		D3870-5	FWD UPPER HARDPOINT
	1		D3871-1	DOUBLER
	1		D3871-2	DOUBLER
	10	12	MS21042L3	NUT
	8	12	MS27039-1-11	SCREW
	1		MS27039-1-12	SCREW
	1		MS27039-1-14	SCREW
	10	24	NAS1149D0332J	WASHER

INSTALLATION	WEIGHT	LONGITUDINAL		LATERAL	
		ARM	MOMENT	ARM	MOMENT
D412-786-011 HARDPOINT KIT	0.58 LBS 0.22 KG	164.67 IN 4.18 M	95.51 IN 0.92 KG-M	-1.25 IN -0.03 M	-0.73 IN-LB -0.007 KG-M
D412-786-013 FWD HARDPOINT KIT	0.22 LBS 0.08 KG	-13.55 IN -0.34 M	-2.98 IN-LB 0.03 KG-M	2.36 IN 0.06 M	0.52 IN-LB 0.005 KG-M
D412-786-015 TAILBOOM MOUNT KIT	0.36 LBS 0.13 KG	273.58 IN 6.95 M	98.49 IN-LB 0.90 KG-M	-3.47 IN -0.09 M	-1.25 IN-LB -0.01 KG-M

NOTES:

- 1) D412-786-011 HARDPOINT KIT REQUIRED ON 412/412EP AIRCRAFT UTILIZING D412-695-011 BLADE FOLDING KIT WHERE WIRE STRIKE COMPATABILITY IS REQUIRED
- 2) TOUCH UP DRILLED HOLES WITH ALODINE PER THE AIRCRAFT MAINTENANCE MANUAL
- 3) TORQUE FASTENERS AS FOLLOWS: 10-32; 20-25 IN-LBS
- 4) PRIME AND PAINT HARDPOINTS TO MATCH AIRCRAFT PAINT SCHEME PER AIRCRAFT MAINTENANCE MANUAL

A	NEW ISSUE	BY	09.01.14
REV	DESCRIPTION	DATE	
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.	N/A		
APPROVED			
DE APPR.			
DATE	09.01.14		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D412-786-1	REV. A
TITLE HARDPOINT KIT INSTALL	SCALE NTS
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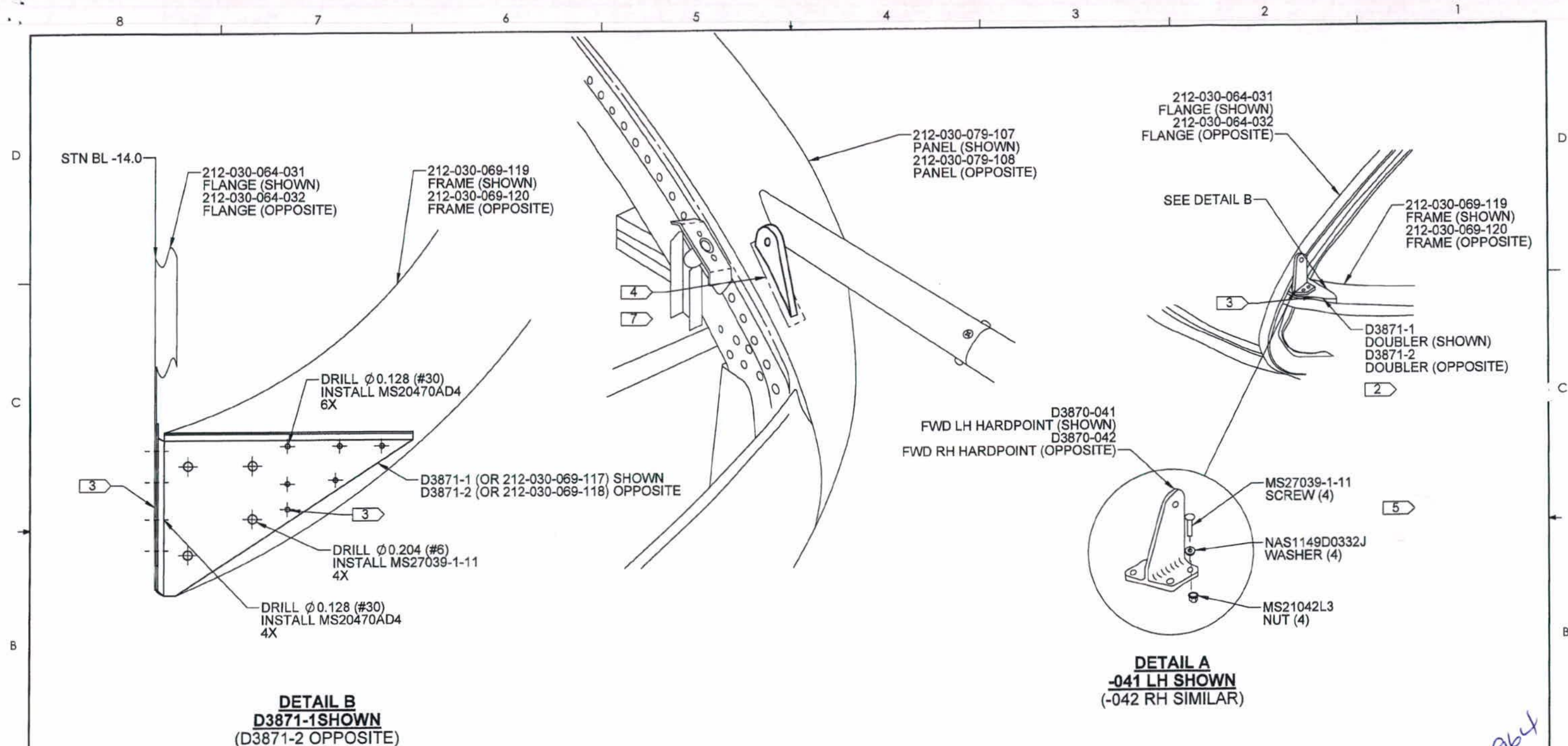


FIGURE 1
FWD HARDPOINT INSTALLATION

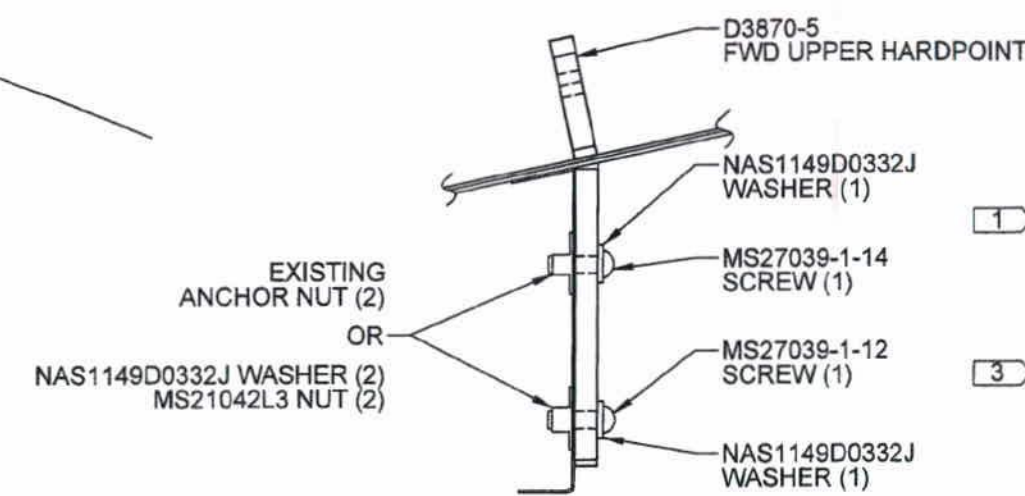
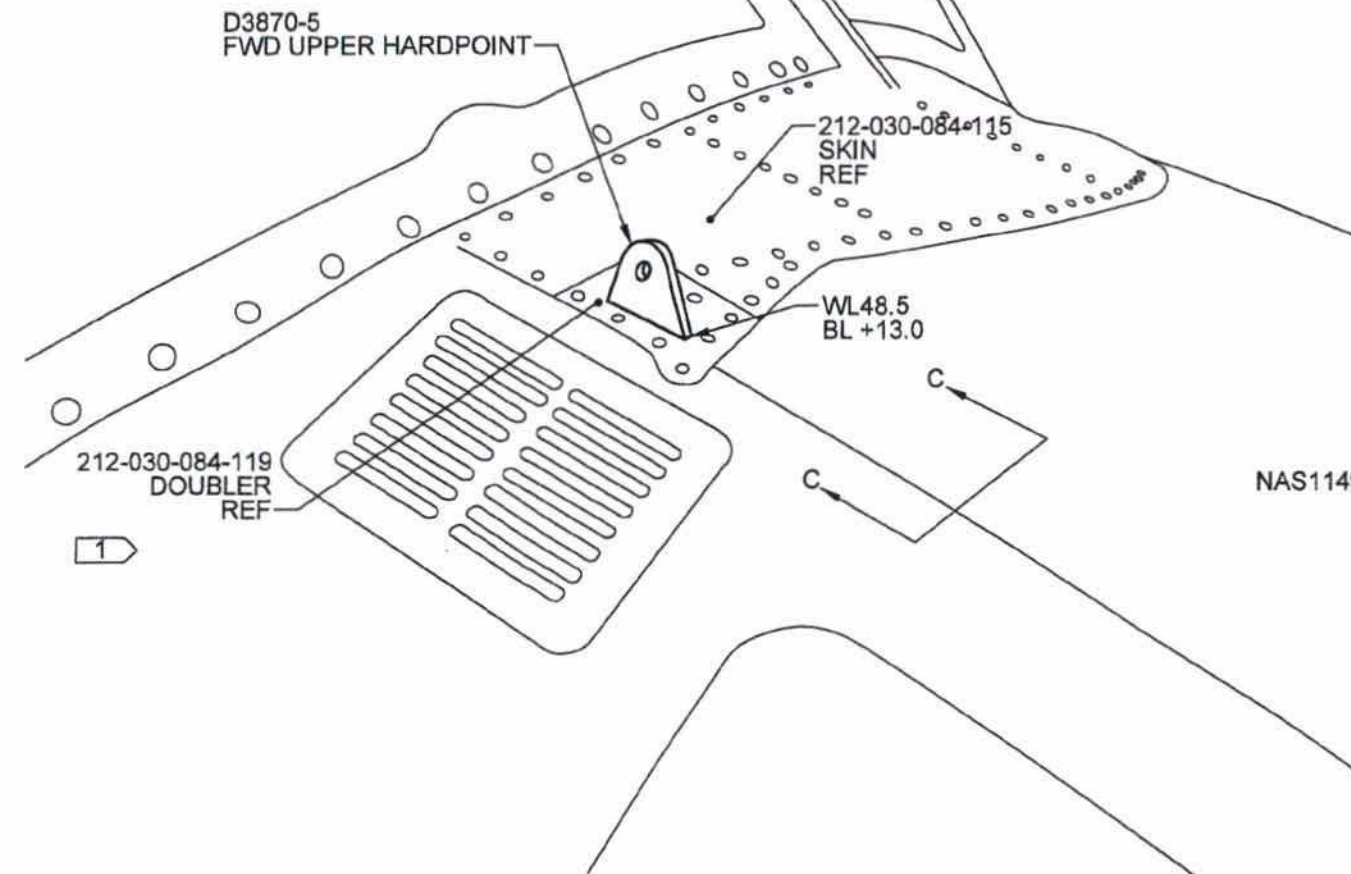
NOTES:

- 1) IF 412-030-205-101/-102 FITTINGS HAVE BEEN INSTALLED/CUT-OFF, REMOVE AND REPAIR 212-030-079-107/-108 PANELS PER AIRCRAFT MAINTENANCE MANUAL.
- 2) D3871-1/-2 DOUBLERS NOT REQUIRED IF 212-030-069-117 AND -118 DOUBLERS ALREADY INSTALLED, SEE STEP 4
- 3) IF 212-030-069-117/-118 DOUBLER(S) NOT INSTALLED, POSITION D3871-1/-2 DOUBLERS AS SHOWN IN DETAIL B AGAINST 212-030-064-031/-032 FLANGE. TRANSFER DRILL 6X $\phi 0.128$ (#30) HOLES FROM D3871-1/-2 DOUBLER INTO 212-030-069-119/-120 FRAME. TRANSFER DRILL 4X $\phi 0.204$ (#6) FROM D3871-1/-2 DOUBLERS TO 212-030-069-119/-120 FRAMES. TRANSFER DRILL 4X $\phi 0.128$ (#30) FROM 212-030-064-031/-032 FLANGE INTO D3871-1/-2 DOUBLER. DEBURR AND INSTALL D3871-1/-2 DOUBLERS USING MS20470AD4 RIVETS
- 4) CUT SLOTTED HOLE IN 212-030-079-107/-108 PANEL FOR D3870-041/-042 MOUNT.
- 5) INSTALL D3870-041/-042 LH/RH HARDPOINTS USING MS27039-1-11 SCREWS AS SHOWN IN DETAIL 'A'
- 6) TO PROVIDE ACCESS TO HARDWARE, IT IS ACCEPTABLE TO INSTALL WITH NUT ON TOP OF D3870-041/-042 MOUNT IF REQUIRED
- 7) SEAL AROUND ENTIRE PROTRUSION WITH PRC OR EQUIVALENT (ALL EDGES)

PRELIMINARY ISSUE

Wp 09/01/14

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
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MFG. APPR.		D412-786-1	SHEET 2 OF 5
APPROVED		TITLE	SCALE
DE APPR.		HARDPOINT KIT INSTALL	NTS
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VIEW C-C

**FIGURE 2
FWD UPPER HARDPOINT INSTALLATION**

- NOTES:**
- 1) IF 412-030-101-119 FITTING IS INSTALLED/CUT-OFF, REMOVE PER AIRCRAFT MAINTENANCE MANUAL. INSERT D3870-5 FWD UPPER HARDPOINT INTO HOLE AND ATTACH USING HARDWARE AS SHOWN ABOVE. SEAL AROUND HARDPOINT AFTER INSTALLATION USING PRC OR EQUIVALENT
 - 2) IF 212-030-084-119 DOUBLER IS NOT INSTALLED, INSTALL PER AIRCRAFT MAINTENANCE MANUAL. TRANSFER CUT-OUT TO 212-030-084-115 SKIN. INSERT D3870-5 FWD HARDPOINT INTO HOLE AND ATTACH USING HARDWARE AS SHOWN ABOVE.
 - 3) ATTACH SCREWS TO EXISTING ANCHOR NUTS
 - 4) IF ANCHOR NUTS NOT PRESENT, INSTALL D3870-5 USING MS21042L3 NUTS AND NAS1149D0332J WASHERS AS SHOWN IN VIEW C-C
 - 5) SEAL AROUND HARDPOINT USING PRC OR EQUIVALENT

PRELIMINARY ISSUE
09/01/16 *MD*
44964

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MFG. APPR.	<i>[Signature]</i>	D412-786-1	SHEET 3 OF 5
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	HARDPOINT KIT INSTALL	NTS
DATE	09.01.14	<small>COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

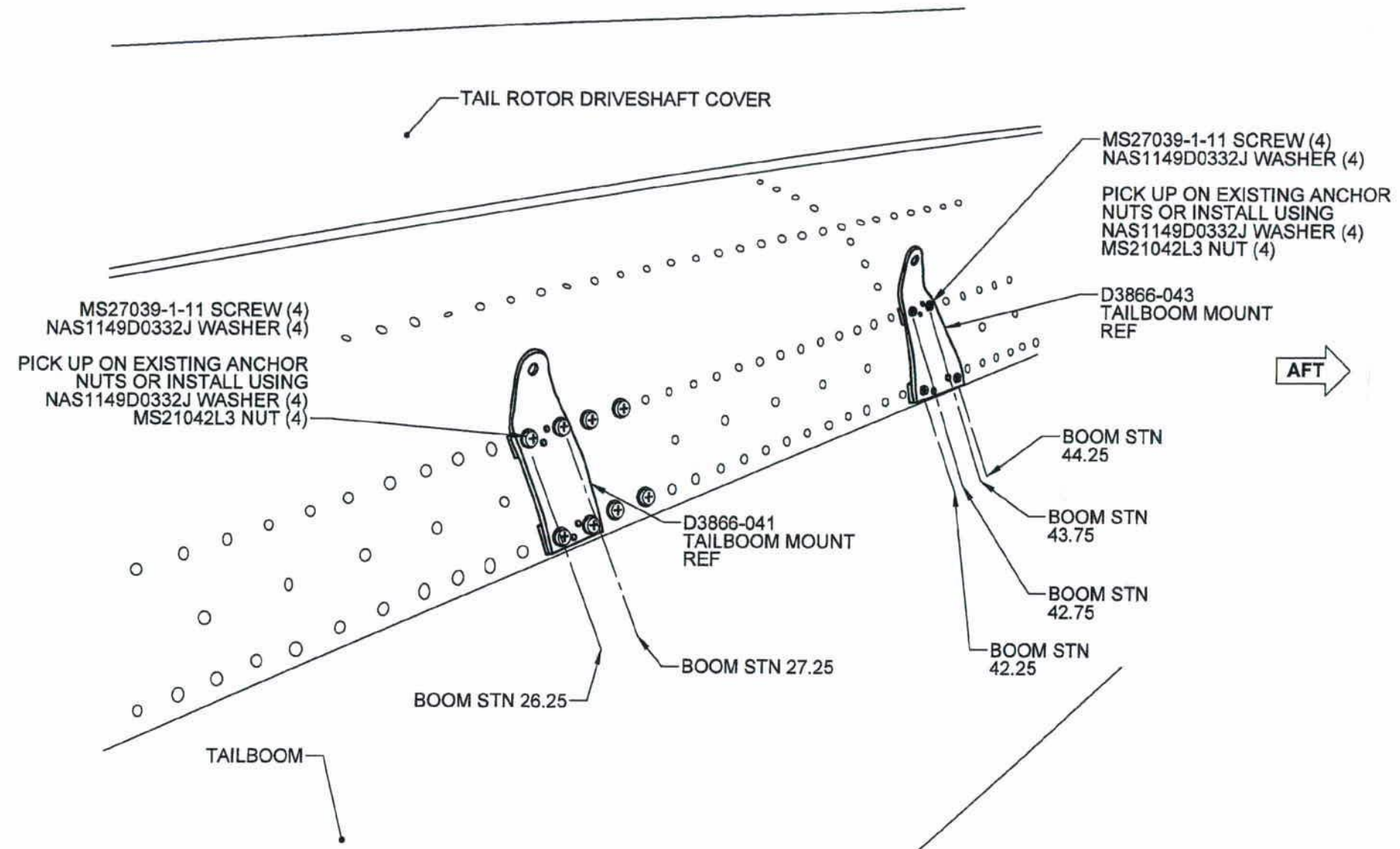


FIGURE 4
LH TAILBOOM MOUNT INSTALLATION

NOTES:

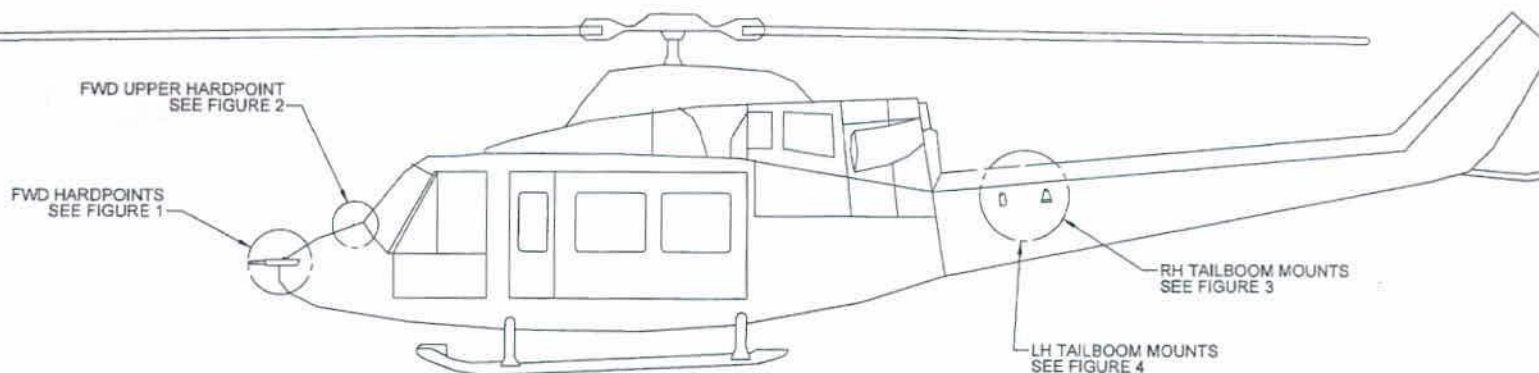
- 1) IF ATTACHMENT SCREWS ALREADY INSTALLED IN TAILBOOM, REMOVE SCREWS AND VERIFY CORRECT LENGTH PER DRAWING ABOVE. TRANSFER DRILL 4x $\varnothing 0.204$ (#6) FROM TAILBOOM TO D3866-041/-043 MOUNT. DEBURR. ALIGN HOLES AND INSTALL D3866-043/-041 TAILBOOM MOUNT USING MS27039-1-11 SCREWS INTO EXISTING ANCHOR NUTS.
- 2) IF ATTACHMENT SCREWS NOT INSTALLED, DRILL OFF RIVETS ON TAILBOOM AT CORRESPONDING LOCATIONS AND REMOVE. REAM HOLES TO $\varnothing 0.204$ (#6). TRANSFER DRILL 4x $\varnothing 0.204$ (#6) PER MOUNT FROM TAILBOOM TO D3866-041/-043 MOUNT. DEBURR. INSTALL D3866-041/-043 MOUNTS USING MS27039-1-11 SCREWS, NAS1149D0332J WASHERS AND MS21042L3 NUTS.

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09/01/16

44964

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D412-786-011 HARDPOINT KIT

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		2	D3866-043	TAILBOOM MOUNT
	1		D3870-041	FWD LH HARDPOINT
	1		D3870-042	FWD RH HARDPOINT
	1		D3870-5	FWD UPPER HARDPOINT
	1		D3871-1	DOUBLER
	1		D3871-2	DOUBLER
	10	12	MS21042L3	NUT
	8	12	MS27039-1-11	SCREW
	1		MS27039-1-12	SCREW
	1		MS27039-1-14	SCREW
	10	24	NAS1149D0332J	WASHER

INSTALLATION	WEIGHT	LONGITUDINAL		LATERAL	
		ARM	MOMENT	ARM	MOMENT
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RELEASED
07/04/14

- NOTES:
- 1) D412-786-011 HARDPOINT KIT REQUIRED ON 412/412EP AIRCRAFT UTILIZING D412-695-011 BLADE FOLDING KIT WHERE WIRE STRIKE COMPATABILITY IS REQUIRED
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